

Stat 67 Final Project

Wednesday, June 8th 1:30pm

Bring to DBH 2048 or turn in anytime before due date to the box on the second floor of DBH.

In this project you will use concepts and skills from the entire quarter to design a study, conduct the study, and do the data analysis for your study.

In order to choose your study question, look at the things you can measure and observe about the Islanders. Look at the actions, the survey questions, the blood tests, the treatments, and the personal information available. Look in the *Journal of Island Studies* <http://island.maths.uq.edu.au/journal.php>, to see some projects that other students did.

It is NOT IMPORTANT whether you find a significant result. It is only important that you carry out the study properly. Here are some tips: <http://island.maths.uq.edu.au/guide.php?experiment>

The project should be typed, with all of the following questions answered in order. It should be printed and stapled in the upper left hand corner. Your name should be in the upper right. In addition, please give your project a descriptive title.

1. What is your study question?
2. What do you believe the outcome will be? (answer before collecting data)
3. What is your population of interest?
4. How did you choose the Islanders for your study sample?
5. How many Islanders are in your study?
6. How did you decide on the study size?
7. What did you measure? How did you measure it? Did you give any treatment? In what order?
8. Is this an observational study or an experiment?
9. Display your data using an appropriate statistical graphic.
10. Provide appropriate summary statistics for your data.
11. Perform a hypothesis test or create a confidence interval. What statistical procedure did you use? What were the results?
12. Write an abstract-style paragraph summarizing your study and its findings.

Grading:

1. What is your study question?
 - Quality of question. Is this question sensible? Is it overly obvious? (Examples of bad projects: A project testing whether alcohol impairs Islander balance-this is pretty obvious. A project about whether favorite pizza topping is related to birth month- why would these be related?) Spend time on this. One of my favorite projects I saw was "Are Islanders who recently ended relationships more likely to be murdered?". You don't need to be scared of using the racy tasks (cannibis, alcohol, mastrubation, etc.) just use them in interesting ways.
2. What do you believe the outcome will be? (answer before collecting data)

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3. What is your population of interest?
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 4. How did you choose the Islanders for your study sample?
 - Did you use a procedure which would allow you to answer your question? Did you use a procedure that would allow you to generalize to your population of interest? Did you pick the Islanders in a sensible way?
 5. How many Islanders are in your study? How did you decide on the study size?
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 6. What did you measure? How did you measure it? Did you give any treatment? What were the treatments? How did you assign them?
 - Will your procedure allow you to answer your question? does your process make sense? If you did an experiment did you create a well designed experiment? if you are doing an observational study did you measure things in a way that would try to account for counfounding?
 7. Is this an observational study or an experiment?
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 8. Display your data using an appropriate statistical graphic.
 - Make sure it is labeled well, looks nice, is readable, and conveys information about your study question.
 9. Provide appropriate summary statistics for your data.
 - Group means, standard deviations, tables, proportions. Whichever is appropriate.
 10. Perform a hypothesis test or create a confidence interval. What statistical procedure did you use? What were the results?
 - Test must be appropriate for the data type and question. Must be done correctly. Conclusion must be stated appropriately.
 11. Write an abstract-style paragraph summarizing your study and its findings.
 - There are lots of web pages explaining how to write an abstract. Also, if you look at the *Journal of Island Studies* the students wrote full papers with abstracts so you can see how it's done.
 12. Attach your data as an appendix.
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